

## Freight Transportation Profile—South Carolina Freight Analysis Framework

Understanding future freight activity is important for matching infrastructure supply to demand and for assessing potential investment and operational strategies. To help decisionmakers identify areas in need of capacity improvements, the U.S. Department of Transportation developed the Freight Analysis Framework (FAF), a comprehensive national data and analysis tool, including county-to-county freight flows for the truck, rail, water, and air modes. FAF also forecasts freight activity in 2010 and 2020 for each of these modes. Information about the methodology used in developing FAF is available on the Office of Freight Management and Operations' website [www.ops.fhwa.dot.gov/freight](http://www.ops.fhwa.dot.gov/freight).

The U.S. freight transportation network moves a staggering volume of goods each year. Over 15 billion tons of goods, worth over \$9 trillion, were moved in 1998. The movement of bulk goods, such as grains, coal, and ores, still comprises a large share of the tonnage moved on the U.S. freight network. However, lighter and more valuable goods, such as computers and office equipment, now make up an increasing proportion of what is moved. FAF estimates that trucks carried about 71 percent of the total tonnage and 80 percent of the total value of U.S. shipments in 1998. By 2020, the U.S. transportation system is expected to handle about 23 billion tons of cargo valued at nearly \$30 trillion.

### South Carolina

Table 1 presents information on freight shipments that have either an origin or a destination in South Carolina. As shown in the table, trucks moved a large percentage of the tonnage and value of shipments, followed by rail. Figures 1 and 2 show freight flows on the highway and rail modes.

Truck traffic is expected to grow throughout the state over the next 20 years. Much of the growth will occur in urban areas and on the Interstate highway system (Figures 3 and 4). Truck traffic moving to and from South Carolina accounted for 13 percent of the average annual daily truck traffic (AADTT) on the FAF road network. Approximately 12 percent of truck traffic involved in-state shipments, and 18 percent involved trucks traveling across the state to other markets. About 57 percent of the AADTT were not identified with a route-specific origin or destination.

International trade moving through South Carolina is expected to grow at a faster pace than domestic trade over the next 20 years. This is especially the case for container shipments moving through the Port of Charleston. Table 2 shows the top five commodity groups shipped to, from, and within South Carolina by all modes. The top commodities by weight are nonmetallic minerals and secondary traffic. By value, the top commodities are textile mill products and secondary traffic.

Table 1. Freight Shipments To, From, and Within South Carolina: 1998, 2010, and 2020

SOUTH CAROLINA	Tons (millions)			Value (billions \$)		
	1998	2010	2020	1998	2010	2020
State Total	287	433	552	271	526	865
By Mode						
Air	<1	<1	<1	8	21	36
Highway	237	361	465	250	481	790
Other <sup>a</sup>	1	3	4	<1	<1	1
Rail	46	64	78	12	23	35
Water	3	4	5	<1	1	2
By Destination/Market						
Domestic	269	401	505	237	452	729
International	19	32	47	35	74	136

Note: Modal numbers may not add to totals due to rounding.

<sup>a</sup> The "Other" category includes international shipments that moved via pipeline or by an unspecified mode.

**Figure 1. Freight Flows To, From, and Within South Carolina by Truck: 1998 (tons)**



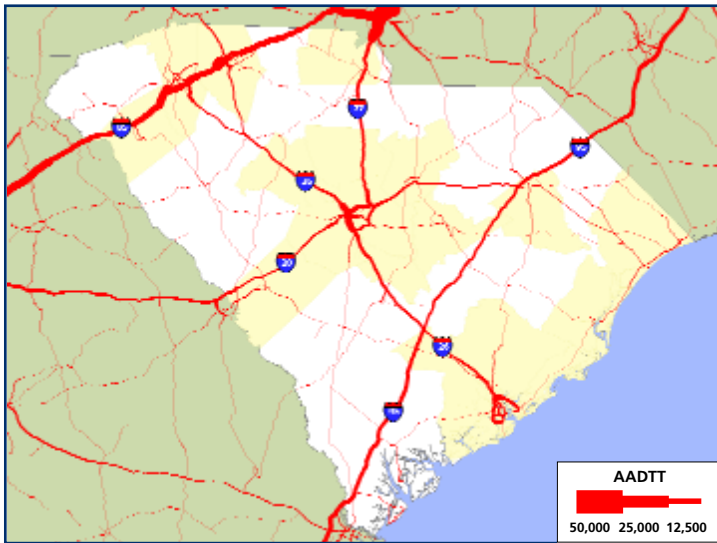
Federal Highway Administration

**Figure 2. Freight Flows To, From, and Within South Carolina by Rail: 1998 (tons)**



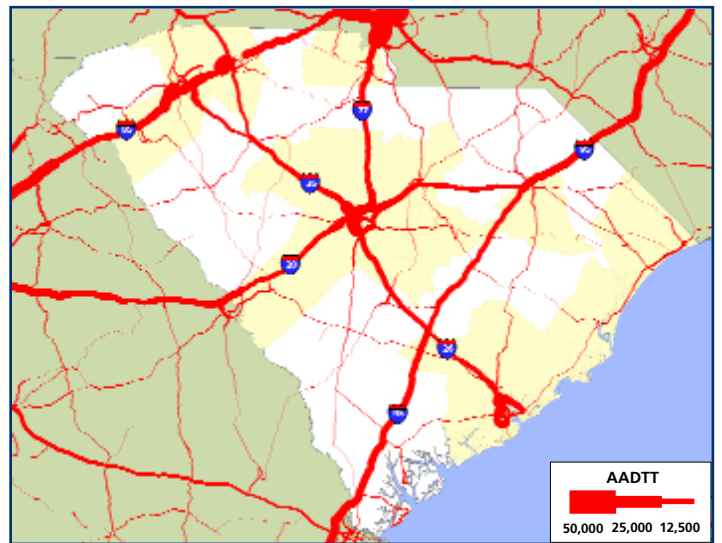
Federal Railroad Administration

**Figure 3. Estimated Average Annual Daily Truck Traffic: 1998**



Federal Highway Administration

**Figure 4. Estimated Average Annual Daily Truck Traffic: 2020**



Federal Highway Administration

**Table 2. Top Five Commodities Shipped To, From, and Within South Carolina by All Modes: 1998 and 2020**

Commodity	Tons (millions)		Commodity	Value (billions \$)	
	1998	2020		1998	2020
Nonmetallic Minerals	54	66	Textile Mill Products	43	60
Secondary Traffic <sup>a</sup>	40	113	Secondary Traffic <sup>a</sup>	41	174
Lumber/Wood Products	33	67	Chemicals/Allied Products	33	84
Chemicals/Allied Products	30	48	Machinery	22	114
Clay/Concrete/Glass/Stone	21	46	Transportation Equipment	22	60

<sup>a</sup> Secondary traffic is defined as freight flows to and from distribution centers or through intermodal facilities. No commodities are assigned to this intermediate step in the transportation process.

#### For More Information, Please Contact

Bruce Lambert  
Office of Freight Management and Operations  
Federal Highway Administration  
202-366-4241  
bruce.lambert@fhwa.dot.gov

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A series of FAF products are available on the website noted below. FAF outputs include freight flow maps for states, modes, and gateways; detailed databases on traffic flows and commodity movements; information on the methodologies used to develop FAF; and forecast assumptions.

The U.S. Department of Transportation, Bureau of Transportation Statistics (BTS) is also developing a series of state transportation profiles. For more information and to obtain a copy of the BTS reports, please call 202-366-DATA.



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